



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,904	03/13/2002	Sylvain Ballandras	220276US2PCT	3011

22850 7590 06/17/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

BUDD, MARK OSBORNE

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

10/070,904

Applicant(s)

BALLANDRAS ET AL.

Examiner

Mark Budd

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) 34-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 19, 20, 24, 26, 28, 32 and 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Fujie or Petermann.

Petermann (fig. 7) shows the piezo electric element with adjacent areas of reversed polarization with electrodes on both major surfaces. Figs. 2 and 4 teach one electrode can function as a base plate (e.g. #30) (substrate). Figs. 14 and 15 teach a linear arrangement of the alternating zones. Fujie figs. 7-9 teaches piezo elements #55 made of oppositely polarized areas, common top and bottom electrodes are provided (#53, #54) and the piezo elements provide alternating areas arranged in either linear or matrix configuration on a substrate (#11). Regarding claims 32 and 33, since no specific functions are claimed, the prior art inherently follows some function of y and x as defined by these claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujie or Petermann in view of Banno, Dias or Gonnji.

Fujie and Petermann teach the device but do not provide unpolarized areas in the piezoelectric material. However, Banno (Fig. 2b), Dias (Fig. 1A) and Gonnji (Figs. 11, 13 & 20) teach that in devices provided with oppositely polarized areas of piezoelectric material that an unpolarized area can also be provided. Such an inactive area could help prevent cross talk, reduce stress in the boundary areas of opposite polarity, shape the device response etc. Thus for at least these reasons it would have been obvious to one of ordinary skill in the art to provide such unpolarized areas in Petermann or Fujie.

Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petermann or Fujie.

Petermann and Fujie teach the device structure as noted above, but they do not explicitly use some of the specific claimed materials. However, selection from among known suitable materials has long been held to be within the skill expected of the routineer. Since all the materials are well known in the art are well known in the piezoelectric device art (official notice taken), selection of a specific material would have been obvious to one of ordinary skill in the art.


Claims 19-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are vague and indefinite in that claims 19 (line 6) and 23 (line 2) call for a "ferromagnetic" material which contradicts claim 10 line 2 which specifies a ferroelectric material.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "\*\*\*" in claims 21 and 22 is used by the claim to mean "\*\*\*", while the accepted meaning is "\*\*\*." The term is indefinite because the specification does not clearly redefine the term.

Applicants traversal of the restriction requirement is noted, however, applicant has not pointed out any specific error in the requirement as stated in the previous office action. The search areas for the product and the methods of producing this piezoelectric device do not coincide or overlap; contrary to applicant allegation. Thus the restriction requirement is hereby repeated and made final.

Budd/ds

  
MARK U. BUDD  
PRIMARY EXAMINER  
ART UNIT 2834